Author's response to reviews

Title: Quantitative home-based assessment of Parkinson's symptoms: The SENSE-PARK feasibility and usability study

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Author's response to reviews: see over
To the Editor

Professor Timothy Shipley

7th March, 2015

Dear Sir,

We resubmit our manuscript entitled “Quantitative home-based assessment of Parkinson’s symptoms: The SENSE-PARK feasibility and usability study” in order to be considered for publication as a research article in “BMC Neurology”.

We thank both reviewers for their comments and suggestions and have now revised the manuscript in accordance with the comments and suggestions raised. We enclose below a response to the issues raised by the reviewers specifying the changes made to the manuscript.

We hope the revised version will now be suitable for publication in “BMC Neurology”.

Yours Sincerely,

Joaquim Ferreira
The investigators of the SENSE PARK study undertook an important piece of research: in daily practice many experienced Parkinson's neurologist deal with the fact that both patients and doctors do often not know whether or not there are fluctuations in motor- and nonmotor symptoms of the disease. Asking patients may not always elucidate these fluctuations and outpatient visits indeed only provide a snapshot of the disease. Available clinimetrics such as motor- and nonmotor wearing off scales are available but it is largely unknown if and to what extent they correlate with daily fluctuations. This may have serious implications for medical treatment. In general, the (small) study is well designed: the inclusion criteria, intervention and outcome are clearly defined. In the current manuscript the authors choose the number of drop outs in this proof of concept study as a primary outcome parameter. They choose to publish the ‘real’ results in a different paper to be submitted later. Of course it is of importance when undertaking a study of this kind that adherence is measured. In this respect it is a good thing that they adequately kept if patients were capable of managing the device and the computer work that comes with it.

1. My main objection against the current (and rather extensive) paper is therefore that the reader has to go through many alineas to find out only that PD patients indeed manage to deal with a 24 hour wearable device during twelve weeks.

2. Another objection is the writing up in English. In several paragraphs of the manuscript I had difficulties reading what the authors meant. (also the manuscript now has two minor flaws: line 123 and 133, something went wrong with the reference source). This paper probably deserves to be published but not in its current form.
Suggestions:

1. Cut down the current paper by about two thirds

We thank the reviewer for the very pertinent suggestion. We have considerably shortened the manuscript. The new version of the manuscript is now more succinct, with an increased focus on the end results of the study.

2. Combine it with the ‘real’ results of the same project in a new manuscript

We thank the reviewer for the suggestion. The primary motive of the study was to evaluate the feasibility and usability of the SENSE-PARK system, for this reason the primary outcome was the frequency of drop-outs and the first secondary outcome was assessed through the IBM Post-Study Usability Questionnaire (PSSUQ). The other secondary sensor related results of the study are exploratory and quite extensive, divided into several domains. As such, they are outside of the scope of this manuscript. However, following the recommendation of the reviewer, we have added the following sentence to the methods section, page 5, line 110:

“The primary outcome was the frequency of drop-outs during the study. The first secondary outcome was assessed through the the IBM Post-Study Usability Questionnaire (PSSUQ - rating score from 1, best, to 7, worst).”

3. I know how hard it is to write an article in a foreign language, so my suggestion would be to make use of an english speaking medical editor.

We thank the reviewer for the comment. The manuscript has now been reviewed by a native English speaking medical editor.

I really look forward to the results and would be pleased to re review the paper.
Reviewer
Sang Jin Kim

The manuscript describes the feasibility and usability of the SENSE-PARK system, which consists of 3 wearable sensors during the day and one at night, a smartphone-based App, a balanced board and computer software, in the frame of a 12 week 24/7 in 22 Parkinson’s disease patients on relatively early stage. The paper shows a reasonable and well defined research aim, valid methods, clear results, sound conclusion, and adequate citations of references. The paper is well written and I have several minor comments for consideration by the authors.

(1) In Figure 2 and its legend, it would be better to number PC like PC1 in figure, and explain the abbreviation such as PC and VH in the legend.

We thank the reviewer for the recommendation concerning Figure 2 and we have edited the figure according to the reviewer suggestions as shown below:

The accompanying legend now also includes a description of the abbreviations:

**Figure 2**: Study design. V: Visit; PC: Phone Contact; VH: Home visits.

(2) In Figure 3 and its legend, it would be better to name (A), (B), and (C) on individual figures and insert (A), (B), and (C) in legend.

We thank the reviewer for the suggestion and have added individual legends to the figure in the suggested manner.
Figure 3: A: bar plot showing the frequency of doubts along the study; B: number of tasks performed; C: number of times the investigator found the recorded data.

(3) In Figure 4, it would be better to omit the figure of PSSUQ-All subjects because PSSUQ of all subjects was already shown on another figure.

We thank the reviewer for the comment. As the reviewer correctly pointed out, this information was already present in Figure 4, therefore, we have deleted the figure PSSUQ – all subjects.
We thank the reviewer for the careful reading of the paper and the pointed corrections. As seen in the image below, the typo has been changed in the figure. We have also corrected the accompanying legend.